

## Patent claims

1. A wound covering (10), comprising a first layer  
5 formed by an absorbent matrix (12) and an anti-  
microbially active substance, the substance being  
present chemically or physically bonded to one surface  
of the matrix (12), the surface of the matrix including  
the substance being coated with a hydrophilic polymer.
- 10 2. The wound covering (10) as claimed in claim 1,  
the wound covering (10) comprising a second layer  
formed by a gas-permeable but liquid-impermeable film  
(14) connected to the matrix (12) and having a self-  
15 adhesive first area (16), the matrix (12) being  
connected to the film (14) in a second area (17) and  
the first area being an area of the film (14) which  
surrounds the second area (17), it being possible to  
stick the wound covering (10) to human or animal skin  
20 by means of the self-adhesive first area, a liquid-  
tight inner space which can be filled with a liquid  
comprising the matrix (12) being formed.
3. The wound covering (10) as claimed in claim 1  
25 or 2, the matrix (12) having at least one fiber or  
being formed from at least one fiber and the surface of  
the matrix (12), to which the substance is bound, being  
a surface of the fiber.
- 30 4. The wound covering (10) as claimed in one of  
the preceding claims, the substance being bound  
exclusively to the surface of the matrix or fiber.
5. The wound covering (10) as claimed in one of  
35 the preceding claims, the substance being an inorganic  
substance, in particular a metal or a metal compound.

6. The wound covering (10) as claimed in claim 5,  
the substance being selected from a group consisting of  
silver, copper and zinc, their ions and their metal  
complexes, or a mixture or alloy comprising at least  
5 one of these components.

7. The wound covering (10) as claimed in one of  
claims 5 or 6, the metal or the metal compound being  
present in the form of clusters on the fiber or surface  
10 of the matrix, in particular applied by evaporation and  
deposition, by a sputtering process or by chemical  
vapor deposition.

8. The wound covering (10) as claimed in one of  
15 claims 5 to 7, the substance having a mean particle  
size of 5 to 100 nm.

9. The wound covering (10) as claimed in one of  
the preceding claims, the substance being present in a  
20 layer having a mean thickness of 5 to 100 nm.

10. The wound covering (10) as claimed in one of  
the preceding claims, the substance being present in an  
amount which is antimicrobially active on thorough  
25 soaking of the matrix (12) with a liquid in the matrix  
(12).

11. The wound covering (10) as claimed in one of  
the preceding claims, the polymer being a polymer  
30 decreasing the adhesion of bacteria, preferably gram-  
negative bacteria or staphylococci, in particular  
Staphylococcus epidermidis, to the fiber or matrix.

12. The wound covering (10) as claimed in one of  
35 the preceding claims, the fiber or the surface of the  
matrix (12) being a fiber or surface coated with the  
polymer by means of plasma polymerization.

13. The wound covering (10) as claimed in claim 12, the polymer being a polymer oxidized after plasma polymerization.

5 14. The wound covering (10) as claimed in one of the preceding claims, the polymer being formed from monomers based on acrylic acid or from monomers based on siloxane, in particular hexamethyldisiloxane.

10 15. The wound covering (10) as claimed in one of the preceding claims, the polymer being present in a layer having a mean thickness of 5 to 500 nm.

15 16. The wound covering (10) as claimed in one of the preceding claims, the substance being present in an amount in which an amount of active compounds not acting cytotoxically on a wound in the application case is formed and/or released by the substance.

20 17. The wound covering (10) as claimed in one of the preceding claims, substances assisting wound healing, in particular growth factors, being bound to the matrix (10).

25 18. The wound covering (10) as claimed in one of the preceding claims, the matrix (12) being thoroughly soaked or impregnated with a liquid assisting wound healing, in particular an acidic liquid or a liquid comprising nutrients assisting wound healing.

30 19. The wound covering (10) as claimed in one of the preceding claims, the film (14) being transparent, at least in places.

35 20. The wound covering (10) as claimed in one of the preceding claims, the wound covering being transparent to light, in particular UV light, IR light or NIR light.

21. The wound covering (10) as claimed in one of the preceding claims, the wound covering comprising an indicator, in particular a pH indicator.

5 22. The wound covering (10) as claimed in claim 21, the indicator being a sensor, in particular a biosensor.

10 23. The wound covering as claimed in claim 22, the sensor being a conductive polymer which changes its conductivity depending on the state of the wound or wound covering.

15 24. The wound covering (10) as claimed in one of claims 21 to 23, the indicator being an indicator indicating the liquid content of the matrix (12).

20 25. The wound covering (10) as claimed in claim 21 to 23, the indicator being an indicator indicating the degree and/or type of a microbial contamination of the matrix (12) or of the wound.

25 26. The wound covering (10) as claimed in claim 21 to 23, the indicator being an indicator indicating an inflammatory status of the wound.

30 27. A process for the production of a wound covering (10) as claimed in one of the preceding claims, having the following steps:

- making available of an absorbent matrix (12),
- making available of a gas-permeable but liquid-impermeable film (14),
- 35 - application of a self-adhesive first area (16) on or to the film (14) and

- connection of the absorbent matrix (12) to the film in a second area (17) of the film (14),
- the first area surrounding the second area (17) of the film (14),

5  
10 by evaporation and deposition, a sputtering process or chemical vapor deposition first an antimicrobially active substance and then, by plasma polymerization, a polymer being deposited on the matrix (12) or a fiber forming the matrix (12).